MUSCULOSKELETAL HISTORY

BASIC INFO
Some questions about your background:
- Age
- Ethnic origin
- Occupation
- How long since retired

HPI
- Describe the pain:
  - How bad? (1-10)
  - Where EXACTLY does it hurt? SHOW ME
  - Always there or does it radiate?
  - When did it start?
  - Suddenly or gradually?
  - What brings it on?
  - What makes it worse?
  - What makes it better?
  - DOES IT WAKE YOU UP AT NIGHT?
  - HOW DOES THIS AFFECT YOUR
    - MOOD
    - JOB
    - LEISURE
    - RELATIONSHIP

ARE YOU DEPRESSED ABOUT IT?
WHAT CONCERNS YOU MOST ABOUT IT?
Does it hurt like there anywhere else?

SYSTEMS REVIEW:
Always ask: ARE YOU ON ANY MEDS?

NEURO:
- Headache?
- Fainting?
- Dizziness?
- Weakness?
- Concentration/memory? eyesight? hearing?
- Taste/smell?

CARDIO:
- Chest pain or tightness?
- Palpitations?
- Dyspnoea?
- Swollen ankles?
- Palpitations?

RESPIRATORY:
- Cough?
- Sputum
- Wheezing
- Fever
- Dyspnoea
- How far can you walk?

GASTROINTESTINAL:
- Swallowing OK?
- Chewing?
- Have own teeth, or dentures?
- Lost or gained weight?
- Heartburn
- Nausea
- Cramps
- Diarrhoea?
- Tarry or bloody stools?

GENITOURINARY:
- Get up often at night?
- Hows the waterworks?

ENDOCRINE:
- Ever get shivers?
- Hot/cold flushes?

MUSCULOSKELETAL:
- Any joint stiffness?
- Joint pain
- Joint swelling
- Backpain?
- Muscle spasms?
- Any Recent falls?

ANY SKIN RASHES?
ANYTHING I HAVEN'T MENTIONED?

ANY ALLERGIES?
BEEN IMMUNISED? When?
EVER BEEN PREGNANT? How many times?
And right now?

MEDICATIONS: list for me

PAST MEDICAL
- What are those medications for?
- How is the general health?
- Any previous illnesses?
- Any previous hospital stay?
- Any previous surgery?

FAMILY
- Anyone in your family had the same problem before?
- Cancer? Heart disease? Diabetes? Arthritis?
WHO DO YOU LIVE WITH? Do they help with ADLs?

SOCIAL:
Do you drink? Smoke? Take Recreational drugs?
- How much? How often?
- Perceived as a problem?
- CAGE QUESTIONNAIRE: tried to cut down, annoyed by criticism, guilty, eye openers?
HOBBIES?
DO YOU EXERCISE?

PERSONAL:
ADLS: what do you do to get up in the morning: Eg. getting out of bed, showering, toilet, brushing teeth, making tea/breakfast, shopping, counting change, opening/locking door etc.
THE HAND and WRIST

LOOK:
- Deformity?
- Swan-neck, Z-thumb, boutonnieres? (rheumatoid)
- Ulnar deviation?
- Heberden (DIP) / Bouchard's (PIP) nodes? (osteo)
- Ganglion cysts (mobile rubbery lump)
- Dupuytren's contracture? alco?
- COLOUR of palmar creases?
- Red?
- Cyanotic? Pale?
- Atrophied?
- Rash? Erythema?


FEEL
- Nodes hard? Soft? Rubbery?
- HOT?
- TENDER?
- Snuffbox tenderness? (scaphoid fracture?)
- WASTED INTEROSSEI?
- WASTED THENAR WEB?
- Subluxed fingers?

MOVE PASSIVELY:
- Passively: dorsi/palmarflex to 75% Ulna/radioflex to 20%
- Tenderness?
- Limitation?
- METACARPOPHALANGEAL SUBLUXATION TEST: rock MCP back and forth
- PALMAR TENDON CREPITUS test: palm against palm, patient flexes fingers
- PIANO-KEY RADIUS: press on radius with palm on pillow; mvt = +ve

MOVE ACTIVELY:
- Prayer
- Inverse prayer
- Make fist
- Spread fingers out
- Test thumb (touch my finger with your thumb)
- Press on PIP: move DIP
- Press on MCP: move PIP
- Move each finger independently

TEST FOR POWER

PHALLENS CARPAL TUNNEL TEST:
- Flex wrists for 30seconds; pain/tingling = carpal tunnel

TINELS SIGN:
- percuss flexor retinaculum: pins and needles = carpal tunnel

GRIP STRENGTH: squeeze my 2 fingers

KEY GRIP: thumb + forefinger

OPPOSITION: hold something with thumb+ pinky

PRACTICAL: undo a button and write a word or two
THE ELBOW

LOOK: expose whole arm; watch pt. undress
- Swelling @ olecranon (bursitis)
- Gout nodules (translucent, firm and mobile)
- RA nodules (hard, tender and attached)
- Wasting
- Colour: red?
- Rash?
- Eczema on elbow bend?
- Track marks?

FEEL:
- MEDIAL (tennis elbow) and LATERAL (golf elbow) EPICONDYLE TENDERNESS
- Palpate swellings: hard?mobile?
- Ulnar nerve in its proper groove? Unusually thick or tender?

MOVE PASSIVELY:
- To ~150 degrees; limitation = synovitis

MOVE ACTIVELY:
- biceps,
- triceps,
- wrist extensors,
- wrist flexors,
- wrist supinators,
- wrist pronators.

POWER VS. RESISTANCE

REFLEXES:
- Biceps (5, 6)
- Triceps (7, 8)
- Brachioradialis (6)

FUNCTIONALITY:
- brush your hair (stiffness)
- carry/hold a bag (supinator/pronator)
THE SHOULDER

LOOK:
- Watch the pt undress
- Stand them up: watch for shoulder drop
- Dominat shoulder should always drop
- LOOK FROM BEHIND: are the scapulae symmetrical?
- Get the pt. to face the wall and lean on it with both hands:
  WINGING OF SCAPULA? = Serratus anterior weakness
- SYMMETRY IS ALL-IMPORTANT
- SWELLING? May be occult
- SCARS at axilla? Node biopsy, etc?

FEEL: from medial clavicle → shoulder → scapula, axilla → ant. shoulder
- STERNOCLAVICULAR
- ACROMIOCLAVICULAR
- HUMERAL HEAD
- BICIPITAL TENDON GROOVE
- CORACOID

FELL WHILE MOVING: same locations
Looking for:
- Crepitus
- Limitation
- Tenderness:
  - Painful limitation in all directions = intra-articular disease
  - In ONE direction = tendonitis
  - Tendon rupture or neurological lesion = PAINLESS WEAKNESS

APPREHENSION TEST:
- Abduct to 90 degrees, externally rotate, push humeral head from behind- pt should complain
- APLEY SCRATCH TEST: assesses all active shoulder movements quickly
- Failed apleys: test movements individually.

POWER vs. RESISTANCE:
- FLEX/EXTEND
- ABDUCT/ADDUCT
- EXTERNALLY / INTERNALLY ROTATE
THE NECK

LOOK
- At patient while sitting:
  - **POSTURE**: Kyphosis / Lordosis / Scoliosis?
  - Head held at midline, or is there torticollis?
  - Congenital webbing a’la Turner’s syndrome?

FEEL:
- Most prom. Vertebra:
  - Check vertebral spacing: should be regular
  - Check that spinous processes are all in midline
  - Check facet joints: 1 cm laterally to midline
  - Feel for muscle spasm

Lymph nodes:
  - submental
  - submandibular
  - cervical ant.
  - Cervical post
  - Preauricular
  - Postauricular
  - Occipital
- Fell for thyroid gland and nodules
- Any pulsatile enlargements over the carotids?

Cervical SPONDYLOSIS: “huckstep’s triad”:
  - Tenderness at ant. Insertion of trapezius into neck;
  - Tenderness over medial insertion of deltoid
  - Tenderness in the extensor mass of the forearm, proximally.

MOVE ACTIVELY ONLY!
- Flex chin ➔ chest
- Extend (N=45 degrees)
- Laterally flex (shoulder ➔ ear; N=45 degrees)
- Rotate 70 degrees in each direction

Say:
  you want to do a NEURO EXAM OF THE UPPER LIMB
LOOK: exposure = naked to waist, wearing shorts
- For deformity: front back and sides
- Kyphosis
- Scoliosis
- Lordosis
- Observe posture
- Observe gait: get them to walk
- Red skin?
- Bruising?
- Stench of Denkorub?
- Muscle wasting of deloids, gluts, quads?
- Look for winging of scapula

FEEL
- ?hot?
- even spacing of spinous processes
- pain?
- Muscles spasms
- Sweating: localised or diffuse?
- PERCUSS DOWN SPINE, looking for bony mets (!! Pain!!)

MOVE: ACTIVELY!
- FLEX : touch toes
SCHOBERS TEST:
- Fingers on back while flexing: looking for 5cm distance iliac spine → lowest rib
- EXTEND:
- LATERAL FLEXION: slide hand down hip, note distance
- ROTATE (brace hips)

LYING DOWN:
Lasegue test for Disk prolapse
- lift straightened leg; to 80 or 90 degrees
- Less than 60 = disk herniation

Say:
WANT TO DO NEURO EXAM OF LOWER LIMBS
THE HIP

EXPOSURE: from hips down
LOOK:
- Posture
- Gait (walk a while)

Trendellenberg test:
- stand on one leg; normal side will sag

LYING DOWN SUPINE:
FEEL:
- Ant. Sup iliac spine
- Symphysis pubis
- Tenderness @ midpoint of inguinal ligament (joint capsule)
- Greater trochanter
- Ischial Tuberosity

MOVE: PASSIVE
- Flexion: bent at knee, to chest = 135 degrees
- ABDUCTION/ADDUCTION: 45 degrees
- Rotation (flexed knee and hip; move foot) = 45 degrees

MOVE: ACTIVE

POWER vs. RESISTANCE

THOMAS TEST FOR OSTEOARTHRITIS:
- Flex both hips; straighten one leg at a time: fully straight?
- If not = flexion deformity

ALTERNATIVELY: for lumbar root compression:
- Extend legs fully
- Put hand under lumbar spin
- Say: put pressure on my hand
- Slowly flex one leg at a time
- Other leg should remain flat on table
- If the leg lifts up and the lumbar spine pressure decreases, test is +ve

GALLEAZY TEST FOR LEG LENGTH:
- Bend at knee, toes together: which bit sticks out further?
- Short above or below the knee?

MEASURE LENGTH OF LEGS:
- **actual:** ant sup iliac spine ➔ med. malleolus
- **apparent:** umbilicus ➔ med malleolus
Position supine, lying down

**LOOK:**
- Muscle wasting
- Quads first to go
- Skin changes
- Scars
- Rashes
- Swelling
- Obvious asymmetry or deformity
- VALGUS = bowlegged = RA
- VARYS = knock-kneed = OA
- SWELLING:
  - moving as joint is moving? (cartilaginous loose bodies)
  - fixed swelling? @ joint line = meniscus cyst; @ pop. fossa = baker’s bursa
- SYNOVIAL SWELLING: usually seen medial to patella
- Flexion deformity: is there a space under the knee when its extended?

**MOVE ACTIVELY: watch patient flex and extend the knee**
- Does the PATELLA REMAIN MIDLINE?
- GLIDES SMOOTHLY?
- Or slips laterally?

**FEEL: patient sitting down, legs over edge of bed**
- Quad wasting?
- Hot knee joint?
- Around joint line: tender?
- Feel behind knee for a bakers cyst

**PATELLA TAP TEST:**
- Compress suprapatellar bursa
- Poke patella downwards
- Any movement means too much joint fluid
- Patellar Apprehension test: move patella laterally watching the pts face
- LATERAL MOBILITY OF PATELLA: should be very limited

**MOVE PASSIVELY:**
- Flex to 135 degrees
- Extend to no more than 15
- With hand on patella: crepitus?

**LIGAMENTS:**

**Collateral:**
- brace thigh with one hand; leg extended;
- try to move leg laterally and medially

**Cruciate: cruciate drawer test:**
- Flex knee to 90 degrees
- Sit on foot
- Try to pull tibia anteriorly and push it posteriorly;
- Ant mvt= ant cruciate laxity

**APLEYS GRINDING TEST: performed prone**
- Flex leg to 90 degrees
- Hold ankle
- Press down and grind; pain and/or clicking = meniscus tear

**APLEYS DISTRACTION TEST:**
- Same, but opposite: pull the leg, not push + grind
- Pain= ligament damage

**TEST KNEE JERK REFLEX (L2-L4)**
THE ANKLE AND FOOT

LOOK:
- Swelling:
  - (bilateral = arthritis or oedema?? Figure it out)
- Deformity?
- Calluses
- Scars
- Muscle wasting, esp. gastrocnemius?
- HALLUX VALGUS: away from midline, “pinched toe”
- Clawing of toes? Fixed flexion deformity
- CROWDING of toes? Rheumatoid Arthritis
- Sausage deformities of toes? = psoriatic arthritis
- GET PATIENT TO STAND UP!
- Arches (transverse, longitudinal) – present?

FEEL:
- from sole, up to 3rd-4th MTP: mortons neuroma
- Big toe tenderness: gout
- Swelling @ medial malleolus: is it pitting oedema?
- Squeeze MTP: tender?
- SQUEEZE CALF: foot normally plantarflexes
- If previous achilles tendon injury, it does nothing
- Achillies tendon: RA nodules? Means seropositive RA!

MOVE PASSIVELY: TALAR JOINT
- Grab mid-foot
- Dorsiflex to 30 degrees
- Plantarflex to 50 degrees

MOVE PASSIVELY: SUBTALAR JOINT:
- Grab ankle, twist front of foot:
- INVERSION, EVISION = 20 or 30 degrees

TENDERNESS MORE IMPORTANT THAN RANGE

GET ACHILLES TENDON REFLEX
CLINICAL PICTURES:

**OSTEOPHARITIS OF KNEE**

- Pain increasing over the last three months.
- Experienced deep aching pain and swelling in knee after exercise - finishing shopping.
- Experienced feeling of stiffness in the knee when getting up from a sitting position and climbing stairs.
- Pain is not keeping him awake at night.
- Over the last few years noticed intermittent right knee pain after playing tennis.
- Ceased playing tennis, a life long passion, two months ago.
- Walks along the beach now limited to fifty meters.
- Analgesic balm gives temporary relief, as does Aspirin.
- Kees noticed the outside heel of his right shoe was wearing down compared with left shoe.
- An old acquaintance had noticed he was limping when arriving for a recent dinner party.
- No locking or giving way reported.

**CARPAL TUNNEL:**

- **numbness,** pain and paraesthesiae in median nerve distribution of hand –
- **worse at night,**
- **pain radiates up to arm and shoulder,**
- waking up in middle of night,
- **relief from shaking arm/hanging it over bed,**
- **pain associated with strenuous activity of hand,**
- **weakness and difficulty with fine manipulative tasks** eg buttoning, sewing;
- **Occupational history:** manual labour involving
  - repetitive fine motor tasks,
  - vibrating instruments
  - lack of posture variation
  - lack of adequate rest breaks
  - long duration of culprit occupation

**RHEUMATOID ARTHRITIS**

eight month history of morning pain and stiffness in her right knee and ankle, and more recently of both hands. Suffering from functional impairment and decreased strength
- pain worst in morning, at least 30min required to reach maximal improvement
- pain worsens in the cold
- both hands (PIPs are swollen and red), knees and ankles involved
- Rt knee is particularly bad, and weakness felt most on weightbearing
- Has a ganglion in the right wrist
- eyes are dry and gritty

**The patient must exhibit 4 out of the 7 following criteria to be diagnosed with RA**

- Morning stiffness lasting 30mins before maximal improvement
- Arthritis in 3 of MCP, PIP, wrist, elbow, knee, ankle and big toe
- Arthritis in the hands
- Joint swelling bilaterally
- Nodules
- **+ve RF**
- Xray changes that show decalcified (more porous) bone or uneven patches of bone erosion around the joints affected by RA